Abstract

The paper argues that clausal possession is to be decomposed into three distinct, independently attested, syntactic configurations, each associated with its own meaning. These include Location, represented as an ordinary small clause, the Part-Whole relation, which always has a complement structure within DP as its source, and an applicative structure ApplP, the source of (in)alienable possession, where humans are treated as special. The analysis we propose focuses on Palestinian Arabic and extends to English clausal possession and its realizations across HAVE and BE. Palestinian Arabic overtly distinguishes a number of ingredients which in other languages enter into Possession less transparently: it marks Location and Part-Whole relations by distinct prepositions, it features a full-agreement / no-agreement distinction associated with scope, and, lacking HAVE, it keeps separate P° and BE, the ingredients often assumed to enter into its composition. The picture which emerges is partly familiar and partly new. We argue that the notion Possession is never linguistically encoded as such, since none of the underlying representations proposed is associated exclusively with possession. We also argue that the subject in possessive clauses is a derived subject with both HAVE and BE. We attribute the differences between Palestinian Arabic and English to a difference in their agreement systems, which in conjunction with Economy, forces P° to extract from its PP and leads to the formation of HAVE. If we are correct, the cross-linguistic distribution of HAVE and BE may further reduce to parametric differences in agreement systems.

Deconstructing Possession

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1.   Introduction

The term Possession typically conflates a variety of notions. The relations which may be expressed by English HAVE, for example, stretch beyond inalienable and alienable possession, in (1a-c), to include also Location of various sorts, in (1d-f).

(1)   a.   The tree has many branches

b.   John has three kids

c.   John has three blankets

d.   Mary has the car

e.   John has three blankets on him

f.   The tree has three nests in it

Furthermore, the grammatical realization of the various relations in (1) is governed by several conditions having to do with whether the possessee is definite, whether the possessor DP denotes a human, and whether the head noun lexically denotes a relation.

We argue that the various meanings covered by possession are associated with distinct structures, from which these interpretations derive. The results of our decomposition suggest that possession is not an individuated structure or content, since none of these structures is dedicated exclusively to possession. More specifically, we propose three independently motivated structures as sources for clausal possession:

I. A DP structure in which the head noun lexically denotes a relation of type $<e,<e,t>>$ (including kinship terms and parts of various sorts: *branches*, *middle*, *edge*, *capital*) and takes a DP-internal individual as its argument. This structure derives what we call Part-Whole relations for humans and non-humans.

II. An asymmetrical small clause, RelP, with a locative PP as complement of Rel°. This structure derives a Locative interpretation.

III. An applicative structure, ApplP, headed by stative AT. The location is in its specifier and the located object is its complement. In this structure humans are treated as special, deriving alienable and inalienable possession.

Following up on the syntactic decomposition in Hornstein *et al.* (1995), we bring it to bear on the semantic literature on possession within DP (Partee 1999; Partee & Borschev 2003; Dowty & Barker 1992; Guéron 2006; Dobrovie-Sorin 2005; Heller 2002), and argue that the Part-Whole relation has a DP-internal source, in (I). We agree, in this respect, with previous claims in the literature (Kayne 1993, Szabolcsi 1983, 1994) that clausal possession is derived by raising from a DP source, but we restrict the DP source of clausal possession to the Part-Whole relation. We take Part-Whole to be broader than inalienable possession and to include also social relations and inanimate Part-Whole, and, more generally, all DPs headed by a noun which lexically names a relation and takes a direct argument.[1] In what follows, we call the head noun Part and its argument Whole; the relation between the Part and its Whole is inherent but need not be permanent. In (II), a RelP structure (Den Dikken 2006) derives the Locative construal. We understand Location in (II) to be in essence temporary, as there is no inherent link relating the objects involved beyond their physical proximity: the car, the blankets and the nests in (1d-f) are located with respect to Mary, John and the tree,

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[1] Whether and to what extent social relations and kinship are involved in Part-Whole/inalienable relations seems to be language dependent (cf. Baron *et al.* 2001; Heine 1997).

respectively. In the course of our analysis, we encounter a third underlying structure, which we analyze as an applicative structure, ApplP, headed by a stative morpheme corresponding to AT (Cuervo 2003). In this structure human locations are treated as special, giving rise to what is traditionally referred to as alienable and inalienable possession. The novelty of our approach lies in licensing an ApplP in the absence of a verbal head, further supporting the relationship between double objects and possession (Pesetsky 1995; Harley 2002), but without implicating possession as such.

The focus of our discussion is Palestinian Arabic (henceforth PA), a language that has a BE-type verb, but no HAVE. In terms of the view, going back to Benveniste (1966), that HAVE is BE combined with a preposition (e.g. Freeze 1992 and Kayne 1993), PA keeps separate the ingredients which make up HAVE. This relative transparency enables us to trace the underlying syntax in the derivation of sentences associated with the various semantic relations in (1). Two features in particular conspire to make PA a promising language for the study of possession: first, it overtly distinguishes Part-Whole and Location by choice of preposition, allowing us to readily track distinct syntactic trajectories. Second, it features an alternation between full subject-verb agreement and no agreement. This allows us, in the no-agreement configuration, to isolate A-movement of PP for the purpose of EPP checking (Holmberg 2000; Bailyn 2004; Biberauer & Roberts 2008), and to distinguish it, syntactically, from another PP-initial configuration which has an ApplP as its underlying structure, the syntactic source of alienable possession.

The paper is organized as follows. After completing our introduction with the presentation of basic Palestinian Arabic data, we argue in the first part of the paper that the Part-Whole and Locative construals are associated with distinct syntactic structures. Our evidence comes from asymmetries in word-order (section 2) and compatibility with full agreement on the verb (section 3). In section 2 we also begin to establish our claim that the

Part-Whole construal has its origins within a DP structure. The study of agreement asymmetries in section 3 leads to a general correlation in PA, between agreement, surface position, and scope, and lays the ground for our study of PP-fronting in the second part of the paper. In sections 4-6, the focus shifts to the no-agreement paradigm, the domain of existential constructions. Section 4 further develops the syntax of Location in configurations in which constituents other than the subject DP, a PP or expletive, check EPP. In section 5 we develop an applicative analysis for another class of PP-initial clauses and show that restrictions revolving around the human nature of the possessor have their source in this structure. Section 6 critically revisits the DP-source analysis proposed for Part-Whole in section 2 and motivates its necessity, in addition to ApplP. Section 7 returns to English and considers the implications for the bridging of syntax and semantics across HAVE and BE and the syntax of possessive HAVE. We suggest that the emergence of HAVE ultimately reduces to the agreement system in conjunction with Economy. Section 8 presents the conclusion.

1.1 Prepositions, Part-Whole, and Location

Palestinian Arabic (the urban dialect), like other Semitic languages and dialects, does not have an auxiliary verb HAVE. Possessive and locative constructions are expressed through a variety of prepositional predicates, with choice of preposition playing an important role in the distinction between Part-Whole and Location.[2] This is particularly clear with inanimate noun phrases, where we observe complementary distribution. One preposition, *la-* 'to', is used to mark Part-Whole relations, in (2a, c).[3] Locative relations are marked by a variety of locative prepositions in (2b, d).

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[2] See Ouhalla (1998) for an analysis of Moroccan Arabic and the role of prepositions in establishing a possession relation.

[3] The preposition *la-* is similar in many ways to English *to*. Both are used as directional prepositions and to introduce goals and benefactives.

(2) a.   kaan   la-∴š-šajara   √ru/   ktar

           WAS.3SG.M   to-the-tree   branches   many

           'The tree had many branches.'

    b.   kaan   √ind   ∴š-šajara   √ru/   ktar

           WAS.3SG.M   at   the-tree   branches   many

           'Near the tree were many branches.'

    c.   kaan   la-∴ - abra šok   √aliil

           WAS.3SG.M   to-the-cactus   thorns few

           'The cactus had few thorns.'

    d.   kaan   jamb ∴ - abra   wardaat

           WAS.3SG.M   beside the-cactus   flowers

           'Beside the cactus were flowers.'

With human possessors the distinction is to some extent blurred, in (3). Kinship and body parts are related to a human possessor via the preposition *la-*, but the locative preposition √ind 'at' can also, in some contexts, express kinship, in addition to Location:[4]

(3) a.   kaan   la-mona   /anf awil /   tlat ulaad

           WAS.3SG.M   to-Mona   nose big /   three kids

           'Mona had a big nose / Mona had three kids (as a mother).'

    b.   kaan   √ind mona   ktaab / tlat ulaad

           WAS.3SG.M   at Mona   book / three kids

           'Mona had a book / Mona had three kids (as a mother or as a babysitter).'

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[4] We find some speaker variation here. For some it can also express the relation between a person and a body-part.

In (3b), Mona can be understood to be the mother of three kids or to be, say, their babysitter. The latter reading is not available for (3a), with *la-* (4).

(4)   kaan   √ind mona   /   #la-mona   tlat ulaad   kull yom

           WAS.3SG.M   at Mona   /   to-Mona   three kids   every day

           'Mona had three kids every day.'

In other words, while *la-* remains restricted to Part-Whole, *√ind* with a human possessor, and in well defined syntactic contexts, as we show below, can also denote Part-Whole, pointing to a relationship between locatives and possession which the sections to follow seek to uncover. We begin, in sections 2 and 3, by motivating distinct structures for Location and Part-Whole. Sections 4 and 5 deal with the special behavior of humans, which, we argue, has its roots in a third structure, ApplP.

2.   Word Order Asymmetries

2.1   Word Order

Our first piece of evidence for a structural distinction between Part-Whole and Locative construals comes from asymmetries in subject position originally observed by Hornstein *et al.* (1995, exx. 15-17). We begin by showing that the asymmetry in the position of the subject is accompanied by different prepositions.

Hornstein *et al.* (1995) show that existential constructions allow both the Part-Whole and Locative readings, in (5a, 6a, 7a, 8a). A preverbal indefinite is restricted to the Locative construal, in (5b). Sentences (6b), (7b), and (8b) necessarily denote a Part-Whole relation, and are accordingly ungrammatical:

(5)   a.   There were ten kids in the building.

b. Ten kids were in the building.

(6) a. There were ten stories in the building.

b. *Ten stories were in the building.

(7) a. There were ten provinces in Canada.

b. *Ten provinces were in Canada.

(8) a. There is a long coastline in Panama.

b. *A long coastline is in Panama.

The same pattern is attested in PA. A preverbal indefinite is restricted to the locative

construal, marked in (9a) by the locative preposition *fi*. A preverbal indefinite is impossible

on the Part-Whole construal, regardless of choice of preposition, locative in (9b), and *la-* in

(9c):

(9) a. tlat ulaad   kaanu   fi-∴l-√amaara

three kids   WERE.3PL   in-the-building

'Three kids were in the building.'

b. *tlat   awabe/   kaanu   fi-∴l-√amaara

three stories   WERE.3PL   in-the-building

'*Three stories were in the building.'

c. *tlat   awabe/   kaanu   la-∴l-√amaara

three stories   WERE.3PL   to-the-building

'*Three stories were in the building.'

In PA, the syntactic distinction is marked, in addition, by choice of preposition. In the

examples considered so far, Part-Whole is the only construal available for the head noun:

stories and buildings; provinces and countries. The relation between syntax and choice of

preposition is better observed when the head noun can, in principle, be interpreted either as Part of the Whole denoted by the indefinite, or as standing in a Locative relation to it. Branches, for example, may be part of a tree or located in relation to the tree. On the Locative construal, 'three branches' can surface in preverbal position, as expected, just like 'three nests', which is necessarily locative.

(10)   a.   tlat   √ru/   kaanu   √al-∴š-šajara

           three   branches   WERE.3PL   on-the-tree

           'Three branches were on the tree.'

      b.   tlat   √šuuš kaanu   √al-∴š-šajara

           three   nests   WERE.3PL   on-the-tree

           'Three nests were on the tree.'

The preverbal construction in (10) has a locative preposition and is based on locative syntax. Part-Whole, on the other hand, is marked by *la-* (2). The distinction is reflected syntactically: when *tlat √ru/* 'three branches' is associated with *la-*, it is construed as a Part, and excluded accordingly from preverbal position. This also holds for nests, which do not qualify as parts of a tree, and can only be construed as temporarily located in relation to a tree. But since locative syntax is blocked, *tlat √šuuš* 'three nests' is excluded from preverbal position when associated with *la-*:

(11)   a.   *tlat   √ru/   kaanu   la-∴š-šajara

            three branches   WERE.3PL   to-the-tree

            '*Three branches were to the tree.'

      b.   *tlat   √šuuš   kaanu   la-∴š-šajara

            three nests   WERE.3PL   to-the-tree

            '*Three nest were to the tree.'

(10)-(11) show that the association of preposition and interpretation is reflected in syntax: a locative preposition is associated with locative syntax, whereas *la-* is associated with Part-Whole syntax, regardless of choice of the head noun. In other words, the association of preposition and syntactic configuration is direct, above and beyond the type of noun involved: a noun such as *branches*, which may be interpreted as a relational noun denoting a Part, will be associated with locative syntax or Part-Whole syntax, depending on choice of preposition (10a, 11a). Thus, while in PA Part-Whole and Location are marked overtly, the syntax is identical to what we find in English. Conversely, syntactic identity between PA and English supports our claim that choice of preposition in PA is not merely a lexical matter.

2.2   The Underlying Structure of Part-Whole

We have shown that only the Locative relation is available when the indefinite is preverbal. The contrast follows from Hornstein *et al.*'s (1995) analysis, where it is argued that the indefinite has a distinct syntactic status in each case. In the underlying structure of the Locative construal, the indefinite is the subject of a small clause and the preposition is the head of a predicative PP. As an underlying subject, the indefinite raises via NP-movement to the matrix subject position in the usual way, in (12a-b). The Part-Whole construal also has a small clause source, introduced by the preposition IN. In this configuration, the indefinite is the predicate and takes the Whole DP as its argument (12c). As a predicate, the indefinite is not expected to raise to matrix subject position, in (12d): [5]

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[5] Following Freeze (1992) and Kayne (1993), Hornstein *et al.* (1995) argue that the preposition does not form a constituent with the Whole DP and is external to the small clause (12c). Their analysis derives constructions such as (6a) by raising the Part indefinite to the specifier of the preposition and inserting the expletive *there* in the matrix subject position. Although the Part indefinite raises from its base position, it cannot reach the matrix subject position (the spec of *in* is an A-bar position):

(i)   [there [be [[ten stories]$_i$ in [the building t$_i$]]]   (Hornstein *et al.* 1995, ex. 8)

The related HAVE clause *the building has ten stories* is derived by incorporation of the preposition into BE, a move that overrides a Minimality obstacle for the Whole-DP, enabling it to cross the Part indefinite on its way to the matrix subject position:

(ii)   [[the building]$_j$ [be+in [[ten stories]$_i$ t$_{in}$ [t$_j$ t$_i$]]]   (Hornstein *et al.* 1995, ex. 9b)

(12)   a.   BE   [$_{SC}$ DP   PP]   (Hornstein *et al.* 1995)

        b.   DP$_1$ BE   [$_{SC}$ t$_1$ PP]

        c.   BE IN [$_{SC}$ DP$_{Whole}$ NP$_{Part}$]

        d.   *NP$_1$ BE IN [$_{SC}$ DP$_{Whole}$ t$_1$]

Although Hornstein *et al.*'s analysis accounts for the asymmetry, the small clause proposed in

(12c) seems to be *ad hoc*. In particular, the predication it contains is special, roughly

corresponding to Partial Constitution. While we adopt the idea that this meaning underlies

(6a-8a) and their English HAVE and PA counterparts, we are not convinced that it has a clausal

structure as its source, since no predications are directly derived from the small clause in

(12c-d). In the absence of IN, copular BE does not produce predications where the Whole is in

matrix subject position.

(13)   a.   *The book is the first chapter

        b.   *The tree is many branches

        c. $^?$*The building is ten stories

        d. $^?$*The ring is gold

The ungrammaticality of the sentences in (13) is unexpected.[6] Since IN seems incidental to the

Part-Whole predication in (12c-d), nothing seems to prevent a small clause introduced in the

ordinary way; but then, nothing seems to prevent the Whole DP from moving to the preverbal

subject position. It remains unclear, therefore, how the introduction of the preposition is

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[6] Larry Horn has pointed out to us that (13c-d) are good when interpreted as exhaustive constitution. We agree with these judgments. Hornstein *et al.* (1995) assimilate the Part-Whole relation to exhaustive constitution as developed in Burgè (1972). Here we remain agnostic as to whether Part-Whole may have roots in exhaustive constitution, and note that these relations do not appear to have the same distribution across the HAVE and BE paradigms, cf. *The ring has gold in it* vs. *The ring is gold.*

motivated and what determines its particular distribution, such that Part-Whole ultimately gets associated with HAVE.[7]

We agree with the basic intuition in Hornstein *et al.* (1995) that the Whole is a direct argument of a predicative Part, to be distinguished from the underlying analysis of the Locative construal. Here we argue that Part-Whole is linguistically encoded within DP, and that its distribution in clauses follows from general syntactic mechanisms, to be demonstrated on the syntax of PA.

To the extent that the relation is independently individuated within DP, an analysis which takes DP as its starting point should be preferred, since it eliminates the need for *ad hoc* predications. Cross-linguistically, Part-Whole is represented within DP, where $N°$ is a function-denoting noun of type $<e, <e,t>>$ and names a relation between a set and an individual, its direct argument, which here we call Whole. The idea is not new, and has been developed in various studies of the syntax-semantics of DP (Barker 1991; Dowty & Barker 1992; Vergnaud & Zubizarreta 1992; Partee 1999; Heller 2002; Partee & Borschev 2004; Jensen & Vikner 2004; Dobrovie-Sorin 2005). The proposal that clausal possession has a DP source is also not new (Szabolcsi 1983, 1994; Kayne 1993).[8] In the latter studies, however, no distinction is drawn between Part-Whole and Location and the syntactic claims apply uniformly to all possessive clauses. Here we claim that possession does have a DP as one of its sources, and that the DP source is restricted to Part-Whole; Location proceeds from a conventional small clause. Our contribution will be to incorporate the DP source of Part-Whole into a general analysis of clausal possession for which we find particularly clear evidence in PA.

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[7] A natural interpretation of the prepositional structure in (12c-d) is as an Applicative Structure (Pylkkänen 2008; Cuervo 2003), where IN is in fact an applicative head which introduces the Whole argument. We develop this possibility in section 5 below, but restrict it to human Part-Whole, i.e. inalienable possession.
[8] Ouhalla (1998) contends that in Moroccan Arabic clausal possession is to be distinguished from possession in the DP. We cannot verify this claim since the facts discussed do not cover the Part-Whole relation.

2.3   Evidence for the DP Source of Part-Whole

We now provide evidence that Part-Whole is independently represented in DP. In English, for

example, only nouns which are lexically relational (in a broad sense to be discussed shortly

below, and excluding nominalizations) can have direct complements, the position of DP in

(14).

(14) $[_{DP} ..... [_{NP} N°_{<e, <e,t>>}$ of $DP_e]]$

(15)   a.   the branches of the tree

        b.   the tree's branches

        c.   *the nest of the tree

        d.   the tree's nest

Thus, the position following *of* only allows entities that can function as a Whole

argument of the Part relation lexically denoted by the head noun (broadly construed, as in

(16)). The pre-nominal genitive, in contrast, is much less fussy, allowing also alienable

possessors, locations, and ultimately relations which can only be determined by context, as in

(16h-i) (cf. Jensen & Vikner 2004 for the classification of these relations). This appears to be

systematic (Dowty & Barker 1992):

(16)   a.   Panama's coastline   /   the coastline of Panama

        b.   the book's first chapter   /   the first chapter of the book

        c.   the table's edge   /   the edge of the table

        d.   the mayor's wife   /   the wife of the mayor

        e.   the landlord's sister   /   the sister of the landlord

        f.   the cat's right ear   /   the right ear of the cat

        g.   the CEO's car   /   *the car of the CEO

        h.   the CEO's team   /   *the team of the CEO

        i.   Mary's sky   /   *the sky of Mary

Importantly, then, the Part-Whole relation is individuated syntactically within DP, such that the complement position is restricted to arguments of relational nouns.[9] We call this relation, broadly, Part-Whole, to include a variety of relations holding of both humans and non-humans: for humans these include kinship, social relations, and body-parts, and for non-humans it includes inherent relations between inanimate objects, such as parts of wholes (edges, coastlines, branches of a tree, stories in a building, etc.). The relation between Parts and their respective Wholes is the only lexical semantic predicate-argument relation associated with non-derived nouns, and in English the complement of *of* seems to be dedicated, for the most part, to this relation.

Preliminary evidence for the necessary source of Part-Whole within DP is also attested in PA. We have shown that *la-* in clausal possession is restricted to Part-Whole. *la-* is also found, however, within DP, where it may denote a variety of relations, ranging from Part-Whole to contextual association, as in (17d) :

(17)   a.   sa el-a   la-panama

[9] We note the contrast with the genitive pre-nominal position but make no particular claims about its denotation or independent source. We agree with previous claims (Borschev & Partee 2003, Jensen & Vikner 2004) that the relation here is completely underspecified and 'possession' is just one possible interpretation among many others, suggesting to us that it is not linguistically individuated and is not derived from any of the sources we propose. The distribution of post-nominal genitives, in contrast, is based on the lexical properties of the head noun and involves no type-shifting. An anonymous reviewer points out apparent counter-examples such as *the land of the free*, *the home of the brave*, *the office of the prime minister*. We believe that these are headed by nouns which are, in these contexts, relational and denote functions of type <e, <e,t>> (much like our discussion of branches in ex. (10)): homes and lands as spatial entities inherently populated by people, and office, in this context, as a spatial entity conventionally associated with a position. In some languages, e.g. English and Hebrew, there is a lexical distinction between an office as a room and an office as associated with a position (*misrad* 'office' vs. *liška* 'chamber'). Other definite descriptions which denote individuals not typically understood to be officially or conventionally associated with an office, do not work as well: ??*the office of my landlord* vs. *my landlord's office*; ??*the home of the CEO* vs. *the CEO's home*. We think it is reasonable to include conventional associations of this sort among the class of inherent, Part-Whole relations, and will take these ambiguities to be lexically constrained, rather than involving type-shifting or coercion. None of this is to deny, of course, that the position following *of* might be subject to further restrictions having to do with the particular choice of DP, such as the contrast between definite descriptions and proper names, mentioned also by our reviewer.

            coastline-3SG.F   to-Panama

            'the coastline of Panama'

b.   malik-a   la-d-dawle

       king-3SG.F   to-the-country

       'the king of the country'

c.   sama-ha   la-yafa

       sky-3SG.F   to-Jaffa

       'the sky of Jaffa'

d.   šabab-a   la-mona

       youth-3SG.F   to-Mona

       'Mona's guys'

(18)   a.   kaan   sa el awil la-panama

        WAS.3SG.M   coastline long to-Panama

        'Panama had a long coast line.'

b.   *kaan   šabab la-mona

        WAS.3SG.M   guys   to-Mona

c.   *kaan   sama /azra/ la-yafa

        WAS.3SG.M   sky   blue   to-Jaffa

We assume the same morpheme *la-* at the DP-level (17) and at the clausal level (18). In PA, unlike English, we do not observe distinct positions for the various kinds of *la*-DP within DP, at least not transparently. Our evidence for the special status of Part-Whole in DP as a predicate-argument relation is somewhat more abstract but still straightforward, given standard assumptions about extraction and the most basic formulation of the ECP: only an argument can be extracted from DP (cf. Godard 1992). Since the only kind of semantic

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argument in DPs (headed by non-derived nouns) is the Whole argument of a Part noun, and

assuming that *la*-DP in (18a) is external to its containing DP (cf. section 6), it follows that

clausal *la*-DP is restricted to Part-Whole, excluding all other relations expressed as *la*-DP, in

(18b-c). The restriction of clausal *la*-DP to Part-Whole therefore supports its special status as

an argument within DP, and further motivates our claim that clausal Part-Whole is best

understood as having DP as its source since its syntactic representation is independently

attested within DP.

Independent motivation for the DP source of Part-Whole is provided by the pattern of

modification. *la*-DP can directly modify the head noun, whereas √*ind*-DP modification is

always introduced by a relative clause. In the latter, the presence of *ʔilli*, which signals the

introduction of an embedded clause, is obligatory.[10]

(19) a. ulaad-ha   la-mona   šatriin

          kids-3SG.F   to-Mona   smart

          'Mona's kids are smart.'

     b. ∴l-ulaad   *(/illi) √ind mona   šatriin

          the-kids   that   at Mona   smart

          'The kids that are at Mona's are smart.'

The pattern of modification supports our claim that *la*-DP is introduced within the basic DP as

a direct argument of the relational noun. √*ind*-DP, in contrast, is a locative PP and only occurs

in a clausal structure. This is schematized in (20):

(20) a. BE [DP big nose [PP to-Sami]]

     b. BE [SC [three nests] [PP by the tree]]

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[10] *la*-DP with a definite head noun requires doubling by a clitic on the head noun.

3.   Agreement Asymmetries

The proposal that only on the Locative construal does the indefinite qualify as an independent argument DP is further supported by the pattern of agreement. Here we show that in the post-copular DP-PP order, the indefinite in the temporary Locative construal requires agreement while on the Part-Whole construal it is incompatible with agreement.

Like many other Semitic and Celtic languages, PA exhibits an alternation related to the overt expression of agreement (see, for example, McCloskey & Hale 1984 for Irish, Rouveret 1991 for Welsh, Fassi Fehri 1993 for Standard Arabic, and Hoyt 2000 for PA). Full agreement, which we call full-Agr, specifies the full array of gender, number, and person features associated with the subject DP. Some verbs, however, may rigidly specify 3rd person singular masculine regardless of the phi-features associated with DP.[11] We consider the presence of these features to follow from a morphological constraint on verbal form, and syntactically, to represent absence of agreement, in short no-Agr. No-Agr is restricted to a subset of intransitive unaccusative verbs, including the copula. While agreement with transitive and unergative verbs is necessarily full, some intransitive unaccusatives allow full-Agr or no-Agr. No-Agr is further restricted by word order. PA allows both Subject-Verb and Verb-Subject orders, with no-Agr restricted to postverbal subjects which are indefinite; regardless of definiteness and verb type, a preverbal subject always shows full-Agr. The interaction of these conditions is illustrated in (21) with unergative *sleep*, and in (22) with unaccusative *arrive*:

(21)   a.   tlat   ulaad   naam-u   fi-l-bet

              three children slept-3PL   in-the-house

              'Three children slept in the house.'

       b.   *tlat   ulaad   naam   fi-l-bet

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[11] PA differs, in this respect, from Standard Arabic, which has poor agreement, marking gender, but not number.

| | | three children | slept.3SG.M | in-the-house |

c. naam-u tlat ulaad fi-l-bet

slept-3PL three children in-the-house

d. *naam tlat ulaad fi-l-bet

slept.3SG.M three children in-the-house

(22) a. tlat ulaad biyu al-u √a-l-bet

three children arrive-3PL to-the-house

'Three children arrive at the house.'

b. *tlat ulaad biyu al √a-l-bet

three children arrive.3SG.M to-the-house

c. biyu al-u tlat ulaad √a-l-bet

arrive-3PL three children to-the-house

'Three children arrive at the house.'

d. biyu al tlat ulaad √a-l-bet

arrive.3SG.M three children to-the-house

'There arrive three children at the house.'

Descriptively, an unaccusative verb can fail to agree just in case its subject is indefinite and postverbal.[12]

Returning to possession, we have seen that only on the Locative construal can the indefinite appear in the pre-copular position. In the post-copular DP-PP configuration, the construals are distinguished by choice of agreement. While Part-Whole is incompatible with

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[12] This recalls the situation in languages with an overt pronominal expletive such as French and Norwegian (Åfarli 2007), and also (non-standard) Italian, where the expletive is locative (Burzio 1986, Moro 1997). Mohammad (2000) argues that PA sentences like (22d) have a null pronominal expletive, on a par with French and Norwegian. We suggest, in section 4, that EPP is checked by an overt category in SpecIP.

full-Agr, Location requires it. In (23), the preposition *la-* guarantees the Part-Whole construal of the relation between a tree and its branches, and agreement is degraded. In (24), where the relation between a tree and three nests is necessarily Locative, full-Agr is obligatory:

(23) a. kaan   xams √ru/   la-∴š-šajara

          WAS.3SG.M   five branches to-the-tree

          'The tree had five branches.'

    b. ??kaan-u   xams √ru/   la-∴š-šajara

          WERE-3PL   five branches to-the-tree

(24) a. *kaan   tlat √šuuš   √ind ∴š-šajara

          WAS.3SG.M   hree nests   at the-tree

    b. kaan-u   tlat √šuuš   √ind ∴š-šajara

          WERE-3PL   three nests   at the-tree

          'Three nests were near the tree.'

Humans are no different in this respect. When associated with relational nouns and marked by *la-*, full-Agr is impossible, on a par with (23) (cf. Hoyt 2000):

(25) a. kaan   tlat ulaad   la-mona

          WAS.3SG.M   three kids   to-mona

          'Mona had three kids.'

    b. *kaan-u   tlat ulaad   la-mona

          WERE-3PL   three kids   to-mona

The correlation between agreement and construal supports our claim that choice of preposition correlates with a syntactic difference. The pattern of agreement is identical to the pattern of movement encountered above: the indefinite on the Locative construal can exhibit

full-Agr, and can also raise to pre-copular position, and the indefinite on the Part-Whole construal can neither agree nor raise. The identity of these patterns clearly suggests a common source, and it is natural to assume that full-Agr is conditioned by the same factors which condition movement to pre-copular position. Since only the indefinite on the Locative construal is an independent argument DP, we conclude that full-Agr requires an argument DP, excluded with Part-Whole indefinites, which denote a relation and do not constitute an independent constituent.[13]

The requirement imposed by agreement for a full argument DP is a special property of agreement in PA, not shared, for example, by English. As is widely known, some varieties of English allow the associate in an existential clause not to agree. Hornstein *et al.* (1995) observe that the non-agreeing form is restricted to the Part-Whole construal, in (26a) (see also Den Dikken 2001 for discussion). Sentence (26a), which lacks agreement with the associate, is similar to PA in allowing only the Part-Whole construal. It can only mean that this room is not equipped with toilets, i.e. it is not a washroom. Sentence (26b), with full agreement, has this reading, but can also be interpreted to refer to the toilet storage room, which appears to have been cleared of toilets, i.e. the Locative construal (example from Hornstein *et al*. 1995). (26b) shows that Part-Whole indefinites, though they need not agree, do have this option even in the dialects under consideration.

(26) a. There appears to be no toilets in this room Part-Whole only

   b. There appear to be no toilets in this room Locative or Part-Whole

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[13] This is not to exclude the possibility for the containing DP to trigger full-Agr, as in (i), where the copula is marked feminine singular. Notably, the Part-Whole interpretation of the clause is lost (cf. 23a), and the containing DP denotes an individual in temporary relation to an unspecified Location, exactly as in the fully specified locatives above.

(i) kanaat   [marrat la-ra/is]
  was.3SG.F wife to-president
  'The president's wife was there.'

While PA and (26) both require the locative indefinite to agree, and both allow the Part-Whole indefinite to fail to agree, they diverge with respect to the possibility of having agreement with a Part-Whole indefinite: possible in English, impossible in PA. In our terms, English allows agreement with an indefinite which is not an argument.[14] We attribute this to the general availability, in English, of covert feature-checking or Agree (Chomsky 1995, 2000), the operation which makes it possible for an associate indefinite in an existential construction, in which the indefinite is lower than SpecIP, to show up with agreement. The notion of covert feature-checking / Agree is useful for describing cross-linguistic differences and similarities in the relation between syntactic position and agreement morphology. We propose that English and PA are identical with respect to the syntactic position of the indefinite, and that the absence of agreement in PA is due to the absence of covert feature-checking / Agree. The basis for this claim is the identity in movement restrictions observed across English and PA (section 2.1), and more specifically the constraint against raising in the Part-Whole construal, which keeps the indefinite in the same lower-than-SpecIP position that is transparently observed in English. In PA, then, we have a direct correlation between position and agreement, such that a lower-than-SpecIP position entails no-Agr.[15]

The general prediction we make is that all DPs located lower than SpecIP, including full argument DPs, should exhibit no-Agr. It follows that full-Agr is restricted to DP in SpecIP:[16]

(27)   a. no-Agr: [$_{IP}$ Infl …. DP ….

        b. full-Agr: [$_{IP}$ DP   Infl …..

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[14] See McNally (1998) for the claim that the associate in an existential clause denotes a property, not an individual. We take the class of facts presented here to be compatible with the idea that existential clauses are not necessarily homogenous, semantically or syntactically.

[15] See Sichel (*in preparation*) for a broader cross-linguistic perspective on the relation between agreement, surface position, and scope.

[16] Sentence (27b) should be read as a necessary condition, leaving open the possibility of no-Agr with a DP in SpecIP, possible probably in (22d) which we set aside, see fn. 23.

(27a) is amply confirmed in section 4, which focuses on no-Agr configurations where indefinite subjects on the Locative construal are in the position roughly indicated in (27a). The empirical wrinkle we immediately encounter, however, is that indefinite subjects on the Locative construal, when exhibiting full-Agr, can show up also in post-copular position (24b). Similarly in the lexical unaccusative paradigm in (22), no-Agr is confined to postverbal position, as expected, but a fully agreeing DP can also show up in postverbal position (22c), repeated for convenience:

(28)　a.　　kaan-u　　　tlat √šuuš　　　√ind ∴š-šajara

　　　　　　WERE-3PL　　three nests　　at the-tree

　　　　　　'Three nests were near the tree.'

　　　b.　　biyu al-u　　tlat ulaad　　　√a-l-bet

　　　　　　arrive-3PL　　three children　to-the-house

　　　　　　'Three children arrive at the house.'

We argue, though, that a postverbal subject with full-Agr is in SpecIP, and that the SV-VS distinction in the full-Agr paradigm depends only on the position of V°, higher in VS. In other words, there are two postverbal positions: SpecIP, the canonical preverbal position, and a lower position as indicated in (27a).[17] Our argument here is based on a correlation between agreement and scope, mediated, we suggest, by surface position: no-Agr configurations produce obligatory narrow scope, whereas full-Agr fixes scope at SpecIP (i.e. no reconstruction). The observation that full-Agr has this effect for both preverbal and postverbal subjects strongly suggests that they occupy the same SpecIP surface position, linear order with respect to V° notwithstanding.

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[17] See Longobardi (2000) for a similar analysis of Italian postverbal bare plurals.

Unlike English agreement, then, agreement in PA has interpretive consequences, which, given (27), ultimately reduce to surface position.[18] We begin with the relative scope of subjects and objects in transitive clauses, where full-Agr is obligatory. (29a) has only one reading, in which the subject scopes over the object. For the object to scope over the subject, the object must raise beyond the surface position of the subject in SpecIP, as in (29b). Taking scope ambiguity in English to result from short object QR coupled with subject reconstruction to Spec$v$P (Hornstein 1994, Johnson & Tomioka 1997, Fox 2000), and assuming that object QR in PA is no different from English, the absence of ambiguity in (29a) follows from the absence of subject reconstruction.

(29) a. tlat banaat baas-u kull walad $3 > \forall; *\forall > 3$

three girls kissed-3PL every boy

'Three girls kissed every boy.'

b. kull walad tlat banaat baas-u-hu $3 > \forall; \forall > 3$

every boy three girls kissed-3PL-him

'Every boy, three girls kissed him.'

The interpretive pattern in (29) persists regardless of the linear order of the subject and the verb. A postverbal subject shows the same scope pattern as long as it is associated with full-Agr. Here too, ambiguity arises only with overt object fronting:

(30) a. baas-u tlat banaat kull walad $3 > \forall; *\forall > 3$

kissed-3PL three girls every boy

'Three girls kissed every boy.'

b. kull walad baas-u-hu tlat banaat $3 > \forall; \forall > 3$

every boy kissed.PL-him three girls

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[18] See Den Dikken (2001) and Sauerland & Elbourne (2002) for closely related facts with the special plural agreement found in some varieties of British English with singular group-denoting nouns like *team*, *committee*, etc.

'Every boy, three girls kissed him.'

The identity in scope across (29) and (30) supports our claim that a postverbal subject with full-Agr is in the same position as the preverbal subject, which we take to be SpecIP. The interaction with quantified objects also suggests that surface position in PA, unlike, for example, English, determines scope and that no subject reconstruction is involved in the reading of (30b) in which the subject takes narrow scope. The general alignment of agreement and scope is clearly observed with the class of unaccusative verbs which allow no-Agr. No-Agr configurations enforce obligatory narrow scope for the subject, whereas full-Agr introduces the option for wide scope. With a fronted quantificational adverb, the subject can scope over it only if associated with full-Agr, in (31b) (adapted from Hoyt 2000: 2):

(31) a. kull yom biji tlat ulaad √a- - aff $\forall > 3; *3 > \forall$

every day come.3SG.M three children to-the-class

'Every day three kids come to class.'

b. kull yom bij-u tlat ulaad √a- - aff

$\forall > 3; \ 3 > \forall$

every day come-3PL three children to-the-class

'Every day three kids come to class.'

These examples directly demonstrate the effect of agreement, where no-Agr confines the subject to narrow scope. Given (29) and (30), the ambiguity of (31b), and in particular the reading in which the subject scopes under the quantificational adverb, follows from the surface position of the quantificational adverb, not from subject reconstruction. The reading in which the subject out-scopes the adverb follows from adverb reconstruction. Following Cinque (1999), we assume that temporal adverbs are positioned higher than vP. This ensures

that adverb reconstruction in (31a), if it applies, will have no effect on the relative scope of the adverb and the no-Agr subject within the *v*P.

The correlation persists in copular constructions. While the non-agreeing indefinite in (32a) scopes only below a fronted quantificational adverb, full-Agr in (32b) opens up the possibility for wide scope of the indefinite, exactly as in (31b):

(32) a.   hanni, kull yom kaan   √ind-o   xams ulaad $\forall > 5; *5 > \forall$

           Hanni, every day WAS.3SG.M at-3SG.M five kids

           'Hanni has every day five kids.'

      b.   hanni, kull yom   kaan-u   √ind-o   xams ulaad $\forall > 5; 5 > \forall$

           Hanni, every day   WERE-3PL at-3SG.M five kids

           'Hanni has every day five kids.'

Two conclusions can be drawn from (29)-(32). First, we have seen that full-Agr fixes the scope position of the DP it is associated with, such that no reconstruction appears to be involved.[19] This state of affairs holds regardless of the linear order of the subject and the verb, in contrast to the obligatory narrow scope associated with no-Agr configurations. We conclude that the DP associated with full-Agr is always in SpecIP, and VS with full-Agr is derived by further verb fronting, possibly to C°. This neutralizes the obstacle to our claim in (27) that subject DPs located below SpecIP always show no-Agr. Second, we have now shown that the relation between surface position and scope is also distinct: while a DP in a position lower than SpecIP will scope relatively low, the scope of a DP in SpecIP is fixed at this position. PA agreement, then, is markedly different from its English counterpart, correlating as it does with surface position, which we have captured in terms of absence of

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[19] See also Doron & Heycock (1999) for Japanese and Aoun & Li (2003) for Chinese.

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covert feature checking.[20] These two claims, summarized in (33), set the stage for our

discussion of existentials in the sections to follow.

(33)   a.   If the surface position of DP is lower than SpecIP → no-Agr

        b.   If no-Agr → the scope position of DP is lower than SpecIP

4.   The Derivation of Existentials: No-Agr and the EPP

We have seen in the previous sections that locative DP-PP requires raising of the indefinite

and agreement, repeated in (34).

(34)   a.   *kaan   tlat √šuuš   √ind   ∴š-šajara

             WAS.3SG.M   three nests   at   the-tree

        b.   (kaanu)   tlat √šuuš   (kaanu)   √ind   ∴š-šajara

             WERE.3PL   three   nests   WERE.3PL   at   the-three

             'Three nests were near the tree.'

Here we show that agreement is not necessary in the Locative construal. While (34a) is

ungrammatical, there are two ways to salvage the Locative construal with no-Agr: PP

Inversion to a position immediately to the right of copular *kaan*, in (35a/35'a), or insertion of

an expletive, *fiih*, in (35b/35'b).[21]

(35)   a.   kaan   √ind / wara/ ∴š-šajaratlat √šuuš

             WAS.3SG.M   at / behind the-tree   three nests

             'There were three nests near / behind the tree.'

        b.   kaan   fiih   tlat √šuuš   √ind / wara/ ∴š-šajara

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WAS.3SG.M   FIIH   three   nests   at / behind the-tree

'There were three nests near / behind the tree.'

(35')   a.   kaan   √ind / wara/ mona   tlat ulaad

             WAS.3SG.M   at / behind Mona   three kids

             'There were three kids at Mona's / behind Mona.'

         b.   kaan   fiih   tlat ulaad   √ind / wara/ mona

             WAS.3SG.M   FIIH   three kids   at / behind Mona

             'There were three kids at Mona's / behind Mona.'

As claimed in section 3 in the context of Part-Whole indefinites, PA lacks covert feature checking. We predicted, accordingly, that no-Agr should be possible with argument DPs as long as they are lower than SpecIP. Our prediction is confirmed in (35), where, given the word order, the indefinite DPs must occupy a position lower than the SpecIP position they occupy in (34b). We propose that SpecIP in (35) is occupied by PP$_{LOC}$ or *fiih*, required for purposes of EPP checking. Since EPP is checked in SpecIP by PP$_{LOC}$ or *fiih*, DP is free to remain low, resulting in no-Agr. On this analysis, the sole requirement imposed by Infl is EPP checking, i.e. that some overt category occupy SpecIP; in particular, Case requirements appear to play no role.[22] Since no nominal features are involved, the category need not be DP (Collins 1997; Holmberg 2000; Bailyn 2004; Biberauer & Roberts 2008, among others). Full-Agr, in contrast, always has DP in its specifier, as in (34b) (see section 3). As expected, full-Agr in the context of (35) is impossible:

(36)   a.   ??kaan-u   √ind / wara/ ∴š-šajaratlat √šuuš

               WERE.3PL   at / behind the-tree   three nests

         b.   *kaan-u   fiih   tlat √šuuš   √ind / wara/ ∴š-šajara

---

[22] See Borer (1986) for an early Case-free analysis of VS.

		WERE.3PL	FIIH	three nests	at / behind the-tree
(36')	a.	??kaan-u	√ind / wara/ mona	tlat ulaad	
		WERE.3PL	at / behind Mona	three kids	
	b.	*kaan-u	fiih	tlat ulaad	√ind / wara/ mona
		WERE.3PL	FIIH	three kids	at / behind Mona

Given our claims about the syntax of full-Agr, the ungrammaticality of (36) strongly

supports the idea that in (35) PP$_{LOC}$ and *fiih* are in SpecIP, in the service of EPP checking. As

usual, EPP can be satisfied either by Merge (of the locative expletive *fiih*) or Move, and the

moving category can also be PP$_{LOC}$ (for the similarity of English *there*-insertion and Locative

Inversion see Hoekstra & Mulder 1990; Freeze 1992; Moro 1997). Full-Agr, on this

conception, is simply the manifestation of DP in SpecIP in overt syntax. In line with

Distributed Morphology, and more specifically Marantz (1991) and Bobaljik (2008) on phi-

features, the relation between syntax and morphology in the IP area in PA strongly suggests

that morphology reflects syntactic configurations or operations but does not trigger them. A

side benefit of our analysis is that EPP in copular constructions is always satisfied overtly,

suggesting that insertion of a null expletive for the purpose of EPP checking is not available

in PA.[23]

We have also claimed in section 3 that PA shows a correlation between agreement,

surface position, and scope position, such that the scope position of DP in the no-Agr

configuration is below SpecIP. When a category other then DP checks EPP in SpecIP, DP

remains *in situ*, where its scope position is fixed. This entails that the locatives in (35) are

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[23] We leave open the status of null expletives with lexical unaccusatives (as in (22d)), since full integration would require a number of additional assumptions which are mainly orthogonal to the syntax of clausal possession. There is an intriguing difference between copular constructions and lexical unaccusatives, as in (22d), which quite possibly do not have an overt category in SpecIP (to the extent that the subject is indeed below the IP area). The difference might then follow on the approach taken in Borer (2005), where (only) unaccusatives which are achievements are equipped with a covert locative which could check EPP.

existential in the semantic sense that, in the presence of other scopal elements, the indefinite

will be limited to narrow scope (Kuno 1971).[24]

5. Bare Inversion

Up until now our main focus has been on sentences containing an overt copula. PA features

another type of PP-initial clause, where the copula is missing, which we take to represent a

third source for clausal possession.

Copula-less clauses in the present tense present a contrast between √*ind* PPs and all

other locative PPs. In the PP-DP order only the former are possible (discussed also in

Mohammad 1998, 2000; see Cowell 1964 for similar facts in Syrian Arabic). We will call the

bare structure in (38)-(40) Bare Inversion.

(37)   a.   *wara/ / √ala / jamb   ∴š-šajara   √šuuš

              behind   / on   / beside the-tree   nests

       b.   *wara/ / √ala / jamb   mona   tlat ulaad

              behind / on   / beside Mona   three kids

(38)   a.   √ind ∴š-šajara   √šuuš

              at the-tree   nests

              'Near the tree are nests.'

       b.   √ind mona   tlat ulaad

              at Mona   three kids

              'Mona has three kids.'

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[24] Here and throughout, we use the term 'existential' to refer to the construction, individuated in many languages and by a variety of syntactic means, in which the subject bears obligatory narrow scope, with no commitment to other syntactic and semantic properties which may be involved.

The only prepositions in PA which pattern like √ind in allowing Bare Inversion are *ma* √

'with' and *la-* 'to' featured in the now familiar Part-Whole construction:

(39)   a.   ma√ mona   tlat /laam

               with Mona   three pens

               'Mona has three pens (on her).'

       b.   ma√ mona   tlat ulaad

               with Mona   three kids

               'Mona has three kids.'

(40)   a.   la-∴ š-šajara   tlat √ru/

               to-the-tree   three branches

               'The tree has three branches.'

       b.   la-saami   √ijreen   uwal

               to-Sami   legs   long

               'Sami has long legs.'

Unlike what we have seen so far, *la*-DP and √ind in the bare PP-DP order seem to pattern

alike. The preposition *ma* √ resembles √ind in that the Locative relation expressed by it is

highly underspecified, and in addition seems to denote a short term location.

       The question we now address is why Bare Inversion is restricted to only a subset of

PPs. We argue that the special behavior of PPs headed by √ind and *ma* √ follows from an

analysis in terms of an applicative structure (Marantz 1993; Pylkkänen 2008). All other

locative PPs, to which we refer from now on as pure locative PPs, require the presence of the

copula when they are fronted (cf. (37) and (35a), section 4). The copula is necessary, we will

suggest, to remove a Minimality obstacle and to enable the PP to cross over DP on its way to

Deconstructing Possession

SpecIP. We begin by motivating the syntax of Bare Inversion and argue in sections 5.1 and 5.2 that Bare Inversion has DP low and the PP in SpecIP, on a par with the existential constructions of section 4. In section 5.3 we turn to the role of the copula and develop our applicative analysis of Bare Inversion.

We leave the discussion of (40) to section 6, where we claim that (40) originates from a DP-internal source. With the ApplP analysis in hand, we return in section 6 to the Part-Whole construal and show that *la*-DP constructions justify the analysis presented in section 2, according to which *la*-DP has a DP-internal source.

5.1   The Position of DP

Bare Inversion is based on the syntax associated with no-Agr configurations. By this we mean that the subject DP is below SpecIP. To see that let us first consider non-inverted bare structures, which are compatible with all locative PPs.

(41)   tlat √šuuš   √ind / wara/ / jamb   ∴š-šajara

three nests   at / behind / beside   the-tree

'Three nests are near / behind / beside the tree.'

Following Doron (1983), Rapoport (1987) and Déchaine (1993), we assume that non-verbal predications such as Bare Inversion and (41) do not include a null verbal copula, and that they do include an Infl node and an EPP requirement. The question then is whether (41) is like a full-Agr configuration and has DP in SpecIP, or like a no-Agr configuration, and has PP in SpecIP, with DP still higher up. The former is consistent with the movement and agreement facts in sections 2 and 3, where we showed that in DP-PP order, the indefinite on the Locative construal must surface with overt full-Agr, an indication of its position in SpecIP. This

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suggests that in (41) as well the DP is in SpecIP.[25] Bare Inversion could in principle be derived from this structure by an additional step of PP-fronting to a position higher than SpecIP. However, if Bare Inversion had DP in SpecIP, the restriction to a subset of PPs would remain mysterious.

We propose therefore that while (41) has DP in SpecIP, Bare Inversion has DP in the lower position associated with no-Agr existentials. Independent support for the low position of DP in Bare Inversion comes from the distribution of bare indefinites. Bare indefinites are impossible in preverbal position, including the bare DP-PP order in (42a-b). In the Bare Inversion construction with √ind, however, bare singulars are fine (42c). (42d) is of course ungrammatical regardless of the indefinite type.

(42)   a.   tlat banaat / *bint   fi-d-daar

             three girls /   girl   in-the-house

   b.   tlat banaat / *bint   √ind saami

             three girls /   girl   at Sami

   c.   √ind saami   tlat banaat / bint

             at   Sami   three girls   girl

             'Sami has three girls / a girl.'

   d.   *fi-d-daar   tlat banaat / bint

              in-the-house three girls   girl

The contrast between (42a)/(42b) and (42c) strongly suggests that the position of DP in Bare Inversion is distinct from its position in bare DP-PP order. This implies that (42c) could not

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[25] The fact that it does not have a full-Agr to show for it is fully compatible with the Distributed Morphology phi-model we are adopting, where morphology reflects syntax but does not trigger it.

be derived from (42b) by PP-fronting, and furthermore, given that DP in (42b) is in SpecIP, it must be lower in (42c), on a par with no-Agr existentials.

5.2   The Position of PP

The next question to address is the location of the PP, and more specifically whether it occupies SpecIP as it does in PP Inversion (35a), or the topic position. In English Locative Inversion, as is well known (Hoekstra & Mulder 1990; Den Dikken & Næss 1993; Bresnan 1994; Collins 1997; Rizzi & Shlonsky 2006, among others), the fronted PP shows mixed properties, which has implied for some that the fronted PP reaches its final A-bar topic position after touching down in SpecIP. Bare Inversion in PA, as we now show, targets SpecIP, and PP checks the EPP, but there is no further movement to a topic position.[26]

Topicalization in PA is clearly distinguishable from Bare Inversion because it obligatorily hosts *fiih*. It also allows all locative PPs. In the past tense, where the copula is overt, PP can occur to its left. There is no agreement on the copula, and any PP will do:

(43) a.   √ind ∴ š-šajara   kaan   *(fiih) tlat √šuuš

             at the-tree   WAS.3SG.M   FIIH   three nests

             'Near the tree there were three nests.'

       b.   √ala mona   kaan   *(fiih) šaršaf

             on Mona   WAS.3SG.M   FIIH   blanket

             'On Mona there was a blanket.'

Crucially, *fiih* is obligatory. This is seen in the past tense example above, and again, in the present tense (44), where there is no copula. In the absence of *fiih* we are left with a Bare Inversion structure, which, as claimed, excludes pure locative PPs:

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[26] On a par with copula inversion in English, where the fronted predicate remains in SpecIP. See Den Dikken (2006) for recent discussion.

(44)   a.   wara/ ∴š-šajara   *(fiih) tlat √šuuš

                behind the-tree   FIIH   three nests

                'Behind the tree there are nests.'

        b.   wara/   mona   *(fiih) tlat ulaad

                behind Mona   FIIH   three kids

                'Behind Mona there are three kids.'

Given the EPP checking capacity of *fiih*, the grammatical versions of (43)-(44), with PP to the left of the copula, must involve PP-Topicalization. Since, as argued in section 4, *fiih* checks EPP in lieu of a low indefinite, topicalization must proceed from (45a), schematized in (45b):

(45)   a.   kaan   fiih   tlat √šuuš   √ind ∴š-šajara

                WAS.3SG.M   FIIH   three   nests   at the-tree

                'There were three nests near the tree.'

        b. PP_{LOC} BE *fiih* [$_{SC}$ DP ~~PP_{LOC}~~]

Returning to our discussion of Bare Inversion, a topicalization analysis can be excluded, first, because topicalization requires *fiih*. But even if in (43-44) *fiih* is used to satisfy the EPP, this still leaves open the possibility that in Bare Inversion PP first fronts to check EPP, as in the derivation under *kaan* in (35a) above, and from there moves on to topic position. Given that all locative PPs front to check EPP to a position immediately to the right of the copula, Bare Inversion might very well be Bare Topicalization. But if so, it would remain quite mysterious why only a subset of PPs can topicalize from SpecIP without the aid of the copula. As it turns out, however, there are substantial reasons to reject a topicalization analysis of Bare Inversion, having to do with the special semantics associated with the construction, which we turn to consider next.

As shown above, the subset of PPs which occur in Bare Inversion are PPs headed by √ind and ma √. Besides these syntactic restrictions, Bare Inversion also features special interpretive properties. When the object of the preposition is human, and the head noun is relational, the relation between PP and DP is inalienable. This is seen clearly in the following minimal pairs, where the a-examples are Bare Inversions and the b-examples give inversions under *fiih*. The former give rise to inalienable possession, while the latter produce temporary readings:

(46)   a.   ma√ mona   taw/am

               with Mona   twins

               'Mona is pregnant with twins.'

       b.   fiih   ma√ mona   taw/am

               FIIH   with Mona   twins

               'Mona has twins in her company.'

(47)   a.   √ind mona   tlat ulaad

                at   Mona   three kids

               'Mona has three kids.'

       b.   fiih   √ind mona   tlat ulaad

               FIIH   at   Mona   three kids

               'Three kids are at Mona's.'

Here we see that Bare Inversion forces a Part-Whole meaning on PPs headed by √ind and ma √, but only with humans and only when the head noun is relational. Crucially, no such restriction is observed in (46b) and (47b) or, for that matter, with the topicalizations in (43-44). It follows that Bare Inversion is not topicalization. It also follows that PP is in SpecIP, in

the service of EPP checking.[27] This is fully compatible with the conclusion, in the previous section, that DP is lower than SpecIP.

5.3 The Applicative Syntax of Bare Inversion

5.3.1 Domain Extension

The conclusion that Bare Inversion has PP in SpecIP and DP lower down gives us an almost minimal pair with inversion to the right of *kaan*, available to all locative PPs and interpreted as a Locative:

(48) a. √*ind- / ma* √-DP   DP   Bare Inversion

      b. *kaan* PP$_{LOC}$ DP   PP Inversion

(49) a. √ind / ma√ / *wara/ / *√ala / *jamb   mona   tlat ulaad

          at   / with / behind / on   / beside   Mona   three kids

          'Mona has three kids.'

      b. kaan   √ind / ma√ / wara/ / √ala / jamb   mona   tlat ulaad

          WAS.3SG.M   at   / with / behind / on / beside   Mona   three kids

          'There were three kids at / with / behind / on / beside Mona.'

The comparison of Bare Inversion and PP Inversion highlights the role of the copula. While it is true that an overt copula is unavailable in the present tense, and so (48a) and (48b) differ primarily in terms of tense, it is also true that PP$_{LOC}$ inversion is impossible in the present tense. Therefore, abstracting away from tense, it appears that the copula is required for movement of pure locatives (48b) (hence their availability only in the past tense), but not in the Bare Inversion (48a) (where it is optional, see further below). Continuing to abstract away

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[27] The fact that neither of the structures in which PP is inverted to SpecIP can feed topicalization strongly argues against a (simple) movement approach to the mixed properties of Locative Inversion. We have nothing new to offer regarding the ultimate source of this restriction, but see Lasnik & Saito (1992) on the unavailability of vacuous topicalization in general, and Den Dikken (2006) and Rizzi & Shlonsky (2006) in the specific context of Locative Inversion.

from tense matters, we refer in what follows to the copula in (48b) as an obligatory copula, and to the copula which may accompany (48a) as an optional copula.

The immediate question which arises, then, is why Bare Inversion should be available only to the PPs in (48a), and why it gives rise to the inalienable interpretation observable with humans. As we show below, the answers to these questions are related. The approach we develop starts out from the assumption that PP_{LOC} extraction to SpecIP faces a Minimality obstacle, removed by the copula. This is consistent with our earlier claim that copula-less structures do not have a null copula; they are radically nonverbal. From this it follows that Bare Inversion must proceed from a distinct source.

The positioning of the inverted PP in SpecIP implies A-movement, which in turn means that PP must be able to cross the closer candidate for A-movement, the subject DP. On any version of Relativized Minimality (Rizzi 1990) crossing of the subject by PP should incur a Minimality violation, everything else being equal. Following Den Dikken (1995), Sichel (1997), and most recently Den Dikken (2006), we assume that PP raising to SpecIP in (48b) is facilitated by parallel domain extending head movement. Den Dikken (1995, 2006) argues that this is accomplished by movement of the head of an asymmetrical small clause (the head of a RELATOR Phrase) to the head immediately above it, termed the LINKER. Movement of the RELATOR to the LINKER is realized in English as a copula; an obligatory copula signals, therefore, predicate inversion, accounting for the contrast between (50a) and (50b). (51) shows that the presence of the copula is probably not related to Breaking Symmetry in the sense of Moro (1990, 2000), motivated by the need to add another layer of structure (from Heycock 1994). The copula in the embedded clause remains obligatory even when an asymmetric specifier, matrix SpecIP, is independently available for the inverted predicate to land in:

(50)   a.   I consider [John (to be) my best friend]

  b. I consider [my best friend *(to be) John]

(51) a. Susan$_1$ is considered [t_1 (to be) the best candidate]

  b. The best candidate$_1$ is considered [t_1 *(to be) Susan]

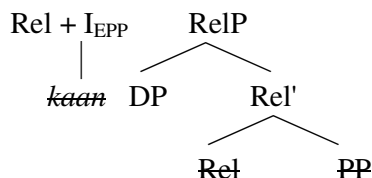We propose a similar derivation for PP$_{LOC}$ inversion to the right of the copula in (48b). Following Den Dikken (2006), the small clause hosting the predicative PP$_{LOC}$ and its subject is asymmetrical, headed by a RELATOR. The RELATOR head is merely a structural position, and can be realized, in principle, by any category. RelP is dominated by FP. Movement of Rel° to F° allows PP to extract from RelP and in doing so, to cross the subject on its way to SpecFP. In the derivation in (52), we take F° to be I°, and PP to land in SpecIP in a single step of movement, the minimal hypothesis. On these structural assumptions, there exists no designated copulaP structure which hosts the copula. An obligatory copula, following Den Dikken (2006), is the realization of domain extending movement, such that movement of Rel° to I° forces the realization of I° as a copula. Subsequent movement of the copula to C°[28] produces copula-PP-subject order (strikethrough indicates previous positions in the derivation):

(52)

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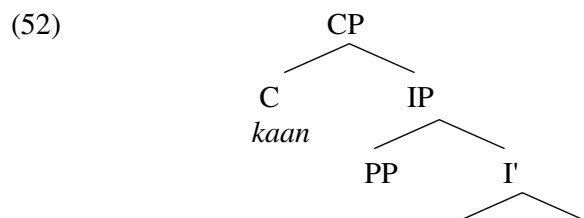
[28] Assuming, as we do, that an agreeing subject DP is in SpecIP, the following pair of examples attests that the verb may optionally be in C in PA:

(i) a. ∴l-bint   kaan-at   btil√ab   b∴-l- akoora
         the-girl   WAS.3SG.F   playing   in-the-garden
     b. kaan-at   ∴l-bint   btil√ab   b∴-l- akoora
         WAS.3SG.F   the-girl   playing   in-the-garden
         'The girl was playing in the garden.'

It is not completely clear to us, however, why PP could not similarly precede the copula as an alternative to (52). Since the details of V-placement are orthogonal to our main concerns here, we will not pursue the reasons for this gap in any detail. Roughly within our set of assumptions, one possibility would be to have a more articulated IP, with AgrP above TP, where EPP is checked in SpecTP by DP / PP-movement or by *fiih*-insertion, and to force V° into a position at least as high as Agr°, along the lines of Jonas & Bobaljik (1996), Henry & Cottell (2007).

$$\text{Rel} + \text{I}_{\text{EPP}} \qquad \text{RelP}$$

(tree diagram)

Rel + I$_{EPP}$ — RelP
~~kaan~~ DP   Rel'
Rel   PP

The analysis of obligatory *kaan* as domain extending movement to I° gives us an immediate explanation for the optionality of the copula in topicalization:

(53)   wara/ / √ind ∴ š-šajara   (kaan)   fiih   tlat √šuuš

behind / at the-tree   WAS.3SG.M   FIIH   three nests

'Behind / near the tree there were three nests.'

Since topicalization directly targets SpecCP, it is an instance of A-bar movement, and PP does not compete with the DP subject. Domain extension is therefore unnecessary.

The derivation in (52), with the copula realizing obligatory head-movement to I°, immediately suggests that no such domain extension is necessary in Bare Inversion. This means that the inverted PP cannot be in the same base position as it is in (52), and PP could not be crossing the subject on its way to SpecIP. On our assumptions regarding the role of the obligatory copula, the absence of the copula can only mean that movement to SpecIP does not encounter a Minimality problem. *ín*nd and *ma* √PPs, therefore, must be generated in a specifier position, from which they are free to raise to SpecIP for EPP checking unaided by domain extension and copula realization. Since here we are concerned with syntax, we temporarily label the head of this projection X°. The indefinite DP is its complement.

(54)   IP

(tree diagram)

IP
PP   I'
√ind- / *ma* √-DP
I$_{EPP}$ XP
~~√ind / ma √-DP~~   X'
X°   DP

39
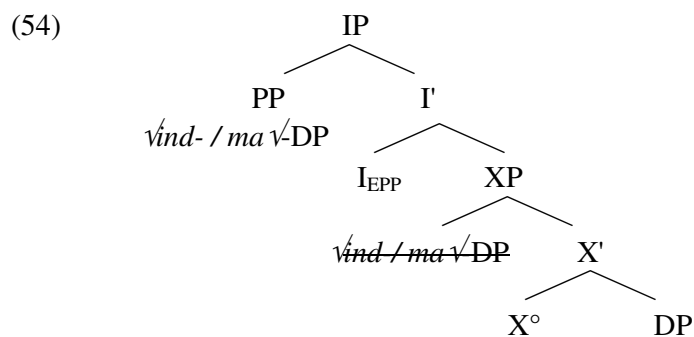
The configuration of XP in (54) accounts for the syntax of Bare Inversion and makes a direct prediction regarding the interaction of copula realization and interpretation. We expect the copula to be optional here, as it always is when domain extension is unnecessary (see (50a) and (51a)). We also expect that with human complements to √ind / ma √, the structure including the copula should be ambiguous, since it has two non-derivationally related sources: (54), which produces an inalienable interpretation (see (46a) and (47a); we address the mapping to inalienable interpretation in 5.3.2), and (52), where PP$_{LOC}$ crosses the subject, which produces the Locative interpretation.[29] This is confirmed in (55):[30]

(55)   a.   kaan   √ind mona   tlat ulaad

                WAS.3SG.M   at Mona   three kids

                'Mona had three kids.'

                'There were three kids in Mona's company.'

       b.   kaan   ma√ mona   taw/am

                WAS.3SG.M   with Mona   twins

                'Mona had twins.'

                'There were twins in Mona's company.'

A copula realized in a topicalization configuration, on the other hand, should keep the restriction to a Locative interpretation with humans, since here PP fronts necessarily from the complement in XP. This is confirmed in (56):

(56)   a.   √ind mona   kaan   fiih   tlat ulaad ~~√ind mona~~

                at Mona   WAS.3SG.M   FIIH   three kids

---

[29] This recalls analyses of the double object construction in English which assign it a separate structure, not derived from the prepositional variant (Pesetsky 1995; Harley 2002; Pylkkänen 2008).

[30] A few words on the English translations may be in order since both of the readings in (55a-b) are existential. We express the reading restricted to Part-Whole with HAVE (cf. Hornstein *et al.* (1995) and Partee (1999) on existential HAVE as restricted to Part-Whole), while the second reading, associated with the Locative construal, is expressed with *there* (see Hornstein *et al.* 1995 for the ambiguity of *there* between the Part-Whole and Locative construals). The latter translation is identical to the one used to translate the locative constructions in (49b) in the beginning of this section.

'In Mona's company there were three kids.'

b. ma√ mona   kaan   fiih   taw/am ~~ma√ mona~~

with Mona   WAS.3SG.M   FIIH   twins
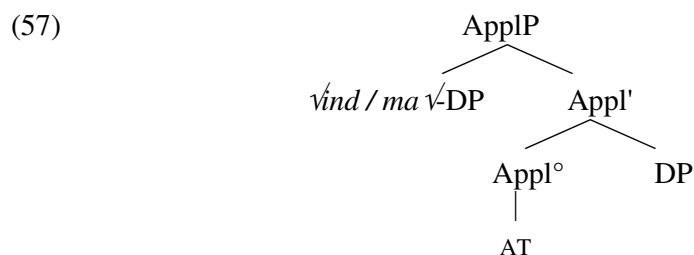
'With Mona there were twins.'

Thus, the special syntax associated with Bare Inversion combined with the analysis of the obligatory copula derives the distribution of interpretations across construction types in (55) and (56). Coupled with the assumption that topicalization from SpecIP is highly restricted, we derive the interpretive effects from the fact that topicalization cannot be fed by Bare Inversion.

5.3.2 Enter the Applicative

With this much established, we turn to discuss the identity of the XP underlying Bare Inversion. We have suggested that XP in (54) must have $\acute{v}ind$ and $ma\sqrt{}$ PPs in its specifier, and the DP in the complement of X°. This is the reverse of the order we find in locative RelP. That the underlying structure of Bare Inversion should be distinct has been independently motivated by the syntax, further supported by the special restriction to inalienable interpretation, when the complement to P° is human (46-7). We now suggest that the interpretive effects follow if X° is instantiated as an applicative head, Appl°.

We propose that $\acute{v}ind$ and $ma\sqrt{}$ PPs, and only $\acute{v}ind$ and $ma\sqrt{}$ PPs, can be generated in SpecApplP due to their stativity combined with the underspecified location they denote. In terms of the applicative typology developed in Cuervo (2003) and Pylkkänen (2008), $\acute{v}ind$ and $ma\sqrt{}$ are akin to AT applicatives, as opposed to the dynamic applicatives TO and FROM. Since only AT applicatives are found in statives, and locative and possessive clauses are

stative, the restriction to √*ind* and *ma* √follows from an applicative analysis of XP, where X°

is realized as an abstract applicative AT:[31]

(57)

```
                        ApplP
                       /    \
            √ind / ma √-DP    Appl'
                             /    \
                          Appl°    DP
                            |
                           AT
```

The specifier of ApplP composes with AT and does not depend on the properties of the DP

complement in any sense. It is not a direct argument of DP, the NP within it, or its head, just

like a DP subject is an argument of Voice, not of VP (Kratzer 1996). In this respect, it differs

from our analysis of Part-Whole outlined in section 2, and crucially, a relational noun is not

required. When the specifier denotes a non-human, the interpretation remains strictly

Locative, as in (58a), on a par with what we have encountered with pure locative PP. At the

same time, when the specifier of (57) denotes a human, and the head noun is relational, we get

an inalienable reading, repeated below (58b-c). This may recall the Part-Whole reading

associated with *la*-DP, however, there is an important difference. With *la*-DP, the Part-Whole

reading arises with humans and non-humans alike (59a).

(58)   a.   √ind ∴š-šajara   √šuuš

                 at the-tree   nests

                'There are three nests near/by the tree.'

        b.   ma√ mona   taw/am

                with Mona   twins

                'Mona is pregnant with twins.'

        c.   √ind mona   tlat ulaad

---

[31] Note that the applicative head is abstract, with √*ind* and *ma* √as part of the constituent within the specifier, consistent with the fact that in PP-topicalization it fronts as a constituent. We assume that P° is interpreted only once, as Appl°. We return to this in more detail below.

at Mona   three kids

'Mona has three kids.'

(59)   a.   la-∴š-šajara   tlat √ru/

to-the-tree   three branches

'The tree has three branches.'

b.   #la-∴š-šajara tlat √šuuš

to-the-tree   three nests

To avoid confusion, we will use the term Part-Whole, from now on, to refer to the relation

that holds equally of humans and non-humans, and reserve Inalienable for the relation

characterizing humans only. *la*-DP to recall, is a direct argument of N° and N° must be

relational (59b). This ensures Part-Whole with non-humans, as well as humans, illustrated in

(59a). From this perspective, the inalienable reading in (58) is somewhat surprising, given that

the relation between the head noun and the specifier is at most indirect. As it turns out,

however, the inalienable reading in (58) is an inference, not an entailment. As an inference,

we expect it to be cancelable in the right sort of context, and it is, in (60b):

(60)   a.   √ind mona   tlat ulaad   (fi-ha-l-madrase)

at Mona   three kids   in-this-the-school

'Mona has three kids in this school.'

b.   √ind mona   xams-mit ulaad   (fi-ha-l-madrase)

at Mona   five-hundred kids   in-this-the-school

'Mona has five hundred kids in this school.'

In the absence of a particular context, (60a) strongly implies that Mona is the kids' mother,

and the addition of the PP *fi-ha-l-madrase* 'in this school' leads to an interpretation whereby

Mona's children go to this school. In (60b), however, Mona cannot be the mother of five

hundred kids, and the sentence is compatible with a situation in which Mona stands in some sort of relation with the kids, say as the principal of the school they attend. Furthermore, when the inalienable reading is unavailable, either because the head noun is not relational (61), or because the relational noun produces an interpretation incompatible with world knowledge, the interpretation reverts to alienable.

(61)   √ind mona   tlat /alaam

        at Mona   three pens

        'Mona has three pens.'

These examples illustrate that while the inalienable reading is indeed salient with humans in Bare Inversion, it is not obligatory, and in this respect it differs with what we find when the human is a direct argument of N°.

What then is the source of the inalienable inference associated with humans when the noun is relational? We take Appl°, and suggest that the inference is related to our world knowledge about locations which are human (Belvin 1993, 1996; see also Harley 1998, Cuervo 2003, Landau 2005, Adger & Ramchand 2007 for the notion of human location). Unlike inanimate locations, humans are typically taken to exert control over things in their pragmatically determined spheres. Therefore, the relation established by AT will be verified when its complement can be understood to be in the sphere or under the control of the human individual denoted by its specifier, what we call alienable possession. When the head noun denotes a relation, it seems only natural to further assume that the human individual denoted by the specifier also satisfies the relation denoted by the noun, hence the inalienable inference in (58). In other words, all these relations are linguistically represented in the same way (57), and accordingly do not represent discrete kinds of interpretation: inalienable possession of this inferred sort is a subcase of alienable possession, which is itself a subcase of location.

In brief, the implementation of XP as ApplP is what restricts the PPs in Bare Inversion to the stative, underspecified locative PPs which we actually find, whether human or not. Semantically speaking, the complement of the applicative head can be understood as falling within the sphere of the applied argument. With human PPs applied to relational nouns this strongly implies inalienable possession, while non-human PPs applied to the complement DP are simple Locations.[32]

6.   Re-enter the DP-Source Analysis

Sections 2 and 3 were devoted to motivating the difference between an ordinary small clause structure and a DP-internal source, as associated with PP_{LOC} and *la*-DP, respectively. Sections 4 and 5 focused on the interpretive differences associated with obligatory and optional copulas and motivated the third structure, ApplP, where humans are treated as special. Having shown that ApplP may produce inalienable interpretations for √*ind* and *ma*√, we are now in a position to revisit our DP-source analysis of the Part-Whole construal. On the tripartite typology we are proposing, inalienable possession has two distinct sources: for *la*-DP a DP-internal source, and for √*ind* and *ma*√ an ApplP source. It is certainly tempting, at this point, to try to assimilate *la*-DP to √*ind* and *ma*√ on their inalienable guise, and to subsume it under the applicative analysis. As mentioned in section 5, *la*-DP constructions pattern like PPs headed by √*ind* and *ma*√ in allowing a copula-less bare PP-DP order:

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[32] While (57) may recall the clausal analysis of Part-Whole given in Hornstein *et al*. (1995), it is actually distinct. On our analysis, Part-Whole necessarily has a DP-internal source. It is only within DP that a noun takes the Whole as its direct argument, which can be human or non-human alike (further motivated in section 6). Neither can the configuration of RelP in (54) be easily understood as a case of Reverse Predication in the sense of Den Dikken (2006), where the predicate is generated in SpecRelP and the subject is in the complement of Rel°, since a simple reversal would fail to account for the shift in interpretation and for the restriction to a subset of PPs. While Den Dikken (2006) does suggest that reverse predications may have special semantic properties (in *beautiful as a dancer* for example, *dancer* is interpreted as an attribute, rather than a fully referential expression), we do not see how this is sufficient the restrictions to a subset of PPs and inalienable interpretation observed in PA.

(62)   a.   la-∴š-šajara   tlat √ru/   (=40)

       to-the-tree   three branches

       'The tree has three branches.'

       b.   la-saami   /ijreen   uwal

       to-Sami   legs long

       'Sami has long legs.'

Furthermore, the word order and agreement asymmetries presented in sections 2 and 3 can be equally explained within an applicative analysis, where, like the DP-internal analysis, the Whole is an argument (now of Appl°) and the indefinite Part is not, since it is complement to Appl°. Despite the attractiveness of this sort of reduction, we show that there are strong empirical reasons, both interpretive and syntactic, to favor a tripartite division which includes both a DP source and an ApplP.[33] Ultimately, we see no theoretical harm in this, since each structure is motivated independently.

6.1   Inalienable Interpretation

The tripartite typology we propose claims, in effect, that there are two sources for inalienable possession: a DP-internal source which depends on a relational noun and is oblivious to the human/non-human distinction, and an ApplP source which is by and large oblivious to the nature of the head noun and treats humans as special. We have shown in section 5 that Bare Inversion constructions with √ind and ma √differ from constructions with la-DP in that the former impose no restriction to a relational noun (58). This follows directly from the division we are proposing, since on the ApplP analysis, the PP is a direct argument of Appl°, and on the DP analysis it is a direct argument of N°. Restrictions on the choice of head noun are expected therefore in the latter. Within an ApplP analysis, the restriction could potentially be

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[33]See also the modification (19) and extraction facts (17)-(18) presented in section 2.

explained in terms of the type of applicative head involved. We could resort to an applicative head which forces a strict Part-Whole relation, where the applied argument in the specifier is the Whole of the complement, regardless of its type. If this were the case, we would expect Bare Inversion construction featuring *la-* to freely occur and to coerce a Part-Whole relation with non-relational nouns. This does not happen, as the ungrammaticality of (63) shows.

(63)　　*la-mona　　　sayyara　　　　aalye

　　　　　to-Mona　　　car　　　　　　expensive

　　　　　Intended: 'Mona has an expensive car.'

We have also shown that Bare Inversion with PPs headed by √*ind* and *ma√* allows an inalienable reading, restricted to humans, whereas with *la*-DP we have Part-Whole, including both humans and non-humans. We claimed in section 5 that in the former case, the inalienable interpretation is merely an inference, cancelable in the appropriate context (60b). The DP analysis, on the other hand, leads to the prediction that the Part-Whole reading is an entailment, since the Whole is a direct argument of the relational Part noun. Indeed, it is not cancelable, as in (64b):

(64)　　a.　　　√ind mona　　tlat ulaad / xams-mit ulaad　　fi-ha-l-madrase　　　　(=60)

　　　　　　　　at Mona　　　　three kids / five-hundred kids in-this-the-school

　　　　　　　　'Mona has three kids / five hundred kids in this school.'

　　　　b.　　　la-mona　　　tlat ulaad / #xams-mit　　ulaad fi-ha-l-madrase

　　　　　　　　to-Mona　　　three kids / five-hundred kids　in-this-the-school

　　　　　　　　'Mona has three / five hundred kids in this school.'

In contrast to (64a), Mona in (64b) can only be understood as the kids' mother, and this interpretation cannot be weakened. Forcing a context where the Part-Whole interpretation is impossible (having five hundred children) simply results in infelicity. No alternative, looser

interpretation can be accommodated, as in (64a) with *v́ind*. These differences lead us to maintain that, indeed, inalienable readings come in two varieties and accordingly have two distinct structural sources. In the following two sections we back this up with evidence which is purely syntactic.

6.2   Domain Extension and EPP Checking

We have claimed in section 5.3.1 that Bare Inversion structures have PP in SpecIP triggered by the EPP. An advantage of an ApplP analysis for constructions containing *la*-DP as in (62), repeated here as (65), is that the word order corresponds to ApplP, where *la*-DP would already be in the specifier and moves from there to SpecIP. The structure of Bare Inversion for *la*-DP on a DP-source analysis would thus be (65c), where *la*-DP extracts from its containing DP in the service of EPP.[34]

(65)   a.   la-∴š-šajara   tlat √ru/   (=62)

              to-the-tree   three branches

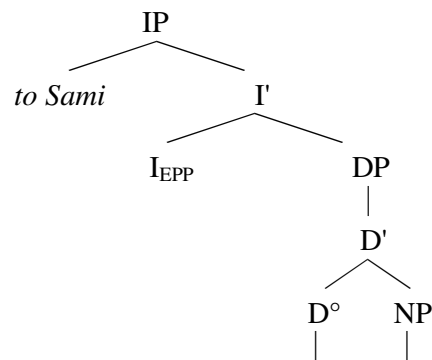   'The tree has three branches.'
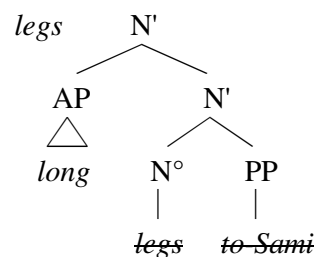
        b.   la-saami   /ijreen   uwal

              to-Sami   legs long

              'Sami has long legs.'

        c.

```
                        IP
                      /    \
                to Sami      I'
                           /    \
                       I_EPP     DP
                                  |
                                  D'
                                 /  \
                               D°    NP
                               |      |
```

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[34] See Mohammad (1988) and Fassi Fehri (1993) for N-to-D, and the positioning of adjective in Arabic DPs. The extraction of *la*-DP from within a containing DP is reminiscent of Landau's (1999) movement analysis for possessor raising.

```
        legs        N'
                 ╱     ╲
              AP         N'
             ╱╲        ╱    ╲
           long      N°      PP
                     |        |
                    legs   to Sami
```

However, we think that this advantage is minor, since there is no difference between the two analyses in the number of steps involved in the derivation of Bare Inversion. When we consider constructions featuring expletive *fiih*, the balance tips towards the DP-source analysis. To recall from section 4, *fiih* insertion is possible in the DP-PP order repeated in (66a). *la*-DP construction are no different in this respect (66b).

(66) a.   kaan   fiih   tlat √šuuš   √ind / wara/ ∴š-šajara   (=35b)

            WAS.3SG.M   FIIH   three   nests   at / behind the-tree

            'There were three nests near / behind the tree.'

      b.   kaan   fiih   tlat √ru/   la-∴š-šajara

            WAS.3SG.M   FIIH   three branches   to-the-tree

            'The tree had three branches.'

To derive (66b), we would need to assume, on the ApplP analysis, an additional specifier position, serving as a landing site for *tlat √ru/* 'three branches'. With *fiih* in SpecIP, the word order implies that *tlat √ru/* 'three branches' has landed in a specifier between ApplP and IP. It is not clear, however, how this step of movement is motivated in the first place, since the sole requirement is EPP, satisfied already by the expletive. Obviously, no such complication arises on a DP-source analysis, where the indefinite is, to begin with, to the left of *la*-DP.
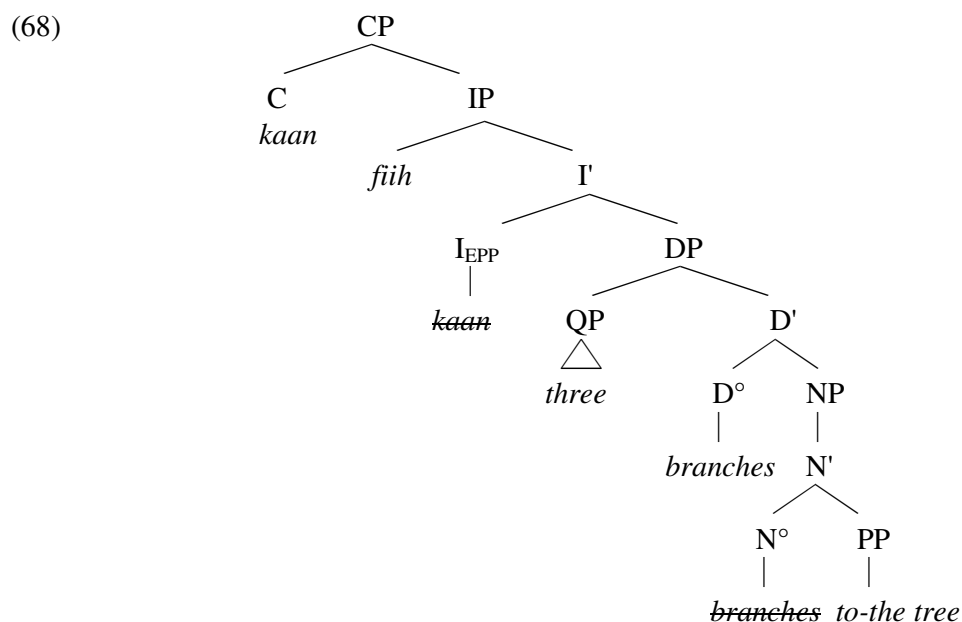
A more serious problem for an ApplP analysis is presented by the grammaticality of (67). When *fiih* is present, the copula is optional.

(67) fiih   tlat √ru/   la-∴ š-šajara

FIIH   three branches   to-the-tree

'The tree has three branches.'

On our assumptions regarding the domain extending capacity of the obligatory copula, extraction of DP from within ApplP, crossing the PP in SpecApplP, encounters a Minimality obstacle, in (67), and here the DP-source analysis seems to fare much better. We suggest that *la*-DP in (66) and (67) remains within its containing DP, and, given the positioning of *fiih* in SpecIP, the entire DP is in its original position. Since no inversion is involved, the copula is optional, as expected. This is represented in (68):[35]

(68)

```
                        CP
                   /         \
                  C           IP
                kaan       /      \
                        fiih        I'
                                /        \
                            I_EPP          DP
                             |          /      \
                            kaan      QP        D'
                                      /\      /     \
                                   three    D°      NP
                                             |       |
                                         branches    N'
                                                   /     \
                                                 N°       PP
                                                  |        |
                                              branches  to-the tree
```

While the ApplP analysis seems to come up against a real difficulty, the DP-source analysis can be integrated coherently with the syntax of EPP checking and domain extension developed in sections 4 and 5.

6.3   Topicalization

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[35] The representation of the numeral in the specifier position raises the question of intervention effects: why isn't QP the closer candidate probed by I_EPP? An answer to this question would require a theory of what counts as a possible goal in existential constructions; we assume that adjectives and numerals do not.

The conclusion that an ApplP analysis for *la*-DP is untenable is further strengthened in the context of Topicalization. In section 5.2 we argued that PP-Topicalization proceeds from the predicate position of a small clause, as in (69), and not from SpecApplP. This was confirmed by the unavailability of an inalienable interpretation with topicalized PPs headed by √*ind* and *ma*√ (70).

(69)   a.   kaan   fiih   tlat √šuuš   √ind ∴š-šajara

       (=45)

          WAS.3SG.M   FIIH   three   nests   at the-tree

          'There were three nests near the tree.'

       b.   PP_{LOC} BE *fiih* [_{SC} DP ~~PP_{LOC}~~]

(70)   a.   √ind mona   kaan   fiih   tlat ulaad   ~~√ind mona~~

          at Mona   WAS.3SG.M   FIIH   three kids

          'In Mona's company there were three kids.'

       b.   ma√ mona   kaan   fiih   taw/am   ~~ma√ mona~~

          with Mona   WAS.3SG.M   FIIH   twins

          'With Mona there were twins.'

If *la*-DP similarly has an ApplP source, and given that topicalization from ApplP is impossible, the expectation is that topicalization should be either ungrammatical, to the extent that *la*-DP is impossible as a small clause predicate in (69), or, if (69b) is a possible source, we expect the kind of temporary Locative reading observed in (70). As it turns out, neither prediction is confirmed. *la*-DP Topicalization is grammatical, in (71). Furthermore, it preserves an exclusive Part-Whole reading, with humans and non-humans alike:

(71)   a.   la-mona   kaan   fiih   √ijreen uwal

          to-Mona   WAS.3SG.M   FIIH   legs long

'Mona had long legs.'

b.　　la-∴š-šajara　　kaan　　　　fiih　　tlat √ru/

to-the-tree　　WAS.3SG.M　　FIIH　　three branches

'The tree had three branches.'

The preservation of Part-Whole interpretation under topicalization is possible only if *la*-DP has a distinct underlying structure, neither ApplP nor a locative small clause. With *fiih* merged in SpecIP to check EPP, *la*-DP may extract from within DP directly to the topic position in SpecCP.

To summarize, a DP-source analysis for *la*-DP Part-Whole has three clear advantages over an applicative analysis. First, it accounts for the difference between entailed and inferred Part-Whole interpretations as well as the restriction to humans in the latter case. Second, it can be coherently integrated with the syntax of EPP checking and domain extension. Finally, it accounts for the sharp interpretive contrast between a topicalized PP headed by *la-* and topicalized PPs headed by *√ind* and *ma√*. Since the DP-internal source of Part-Whole is independently attested, its inclusion in the typology of underlying structures for clausal possession is essentially cost-free.

7.　　Implications for Clausal Possession in English

Our syntactic decomposition of clausal possession in PA may provide a new key for understanding its English counterpart. Ritter & Rosen (1997) and Harley (1998) reduce the various meanings associated with HAVE to a single functional ingredient which takes a variety of syntactic complements, and derive each meaning from the environment in which it is found. The main empirical focus in these studies is the syntactic decomposition of the causative and experiencer readings, with less attention to the syntax of possession. Given our

central claims about the syntax of clausal possession in PA, it appears that a syntactic

decomposition of possessive HAVE may also be within reach. While we will not provide a full

account, our goal here is to show that in addition to the similarities between English BE and

full-Agr configurations in PA presented in sections 2 and 3, there are also significant

similarities between no-Agr configurations in PA and English HAVE.

First, English BE and Full-Agr configurations in PA are characterized by having the

so-called possessor positioned lower than the possessee, while English HAVE like no-Agr

configurations in PA have this relation reversed.

Second and most importantly, our three-way deconstruction of possession into

Applicative, Part-Whole and Locative structures may underlie English clausal possession as

well. As noted in the literature, possessive HAVE allows three kinds of interpretations,

alienable possession, Part-Whole and Locative (Belvin 1993; Déchaine *et al.* 1994; Harley

1998):

(72) a. Mary has (Paul's) books (on the / her shelf).

  b. The tree has many branches.

  c. The tree has many nests *(in it / near it / beside it).

The three interpretations are associated with different structures. The alienable possession

construal (72a), with a human possessor, is distinct from the other two. Unlike (72b), the DP

may contain a possessor, indicating that the subject is not a direct argument of a relational

indefinite. Unlike (72c), the PP can be missing, and when present, it need not contain a

pronoun. The Part-Whole construal and the Locative construal in (72b) and in (72c) are also

distinct; the Locative construal includes an obligatory PP containing a pronoun which corefers

with the subject, impossible on the Part-Whole construal (adding it has an effect on

interpretation). We propose that the structures underlying English possession across HAVE and BE are essentially those found in PA:[36]

(73) a. Applicative: [$_{IP}$ …. [Infl … [$_{ApplP}$ [$_{DP}$ Mary] AT [$_{DP}$ John's books]]

  a'. Applicative: [$_{IP}$ …. [Infl … [$_{ApplP}$ [$_{DP}$ Mary] AT [$_{RelP}$ [$_{DP}$ John's books] Rel° PP$_{LOC}$]]]

  b. Part-Whole: [$_{IP}$ …. [Infl … [$_{DP}$ branches [$_{DP}$ of the tree]]

  c. Location: [$_{IP}$ …. [Infl … [$_{RelP}$ [$_{DP}$ nests] Rel° [$_{PP}$ in the tree]]]]

We take the obligatory PP in the Locative (72c) to signal a RelP which contains PP$_{LOC}$, in (73c) and explain below why, unlike the situation in PA, PP in English never surfaces in SpecIP. The special syntax associated with human subjects, in (72a), suggests that the sentence must have a distinct, non-Locative, underlying source.[37] In particular, movement of the human location to SpecIP must be possible. By analogy with PA $\acute{v}ind$-DP, we suggest that (72a) has an ApplP source, with the human location as the specifier of a stative Appl°.[38] On this analysis, the human applied argument can raise to SpecIP smoothly.[39] Given our claim that the Whole in (72b) is a direct argument of an indefinite Part, extraction of *the tree* from within DP and raising to SpecIP (like *la*-DP, section 6) proceeds smoothly (see also Kayne (1993) and Hornstein *et al.* (1995)). As mentioned above, we take the obligatory PP in (72c) to correspond to PP$_{LOC}$ within RelP in (73c). However, movement of PP$_{LOC}$ to SpecIP is

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[36] For the two applicative structures in (73a), see Pylkkänen (2008) and Cuervo (2003) on high and low applicatives.

[37] Recent related work on locatives, possession, and experiencers (Harley 1998; Cuervo 2003; Landau 2005; Adger & Ramchand 2007; Pylkkänen 2008) has also isolated the human aspect of location, relating it to the notion of Experiencer, where the latter is understood as human location.

[38] One difference, related directly to (73a), has to do with the fact that, in English, only humans are possible as subjects in (72a). While we have no explanation of the difference, we note that a similar restriction is attested in the double object construction, where Goals must be entities which can be understood to alienably possess, typically humans (Green 1974, Oehrle 1976, Jackendoff (1990). The connection between English HAVE and the double object construction is drawn explicitly in Harley (2002) and our proposal bears an obvious similarity to that study, especially if English double objects are applicative structures (Cuervo 2003, Pylkkänen 2008).

[39] Allowing for minor parametric variation in the realization of the applicative head, such that in PA it is abstract, with the specifier containing the overt realization, whereas in English it is possibly overt and leads to HAVE (see below).

completely blocked, whereas in PA movement of PP$_{LOC}$ requires domain extension and a copula. This brings us to the third point of similarity: in both languages, raising to SpecIP involves simpler derivations on the Part-Whole construal and in alienable possession, than movement of PP$_{LOC}$ in the Locative construal. The shared asymmetry receives a straightforward explanation on a uniform analysis of underlying structures.

No doubt, the overall syntax of English HAVE is distinct from what we have seen in PA no-Agr configurations in an important respect: in English, PP never surfaces in SpecIP whereas movement of PP$_{LOC}$ in PA requires domain extension and a copula. The problem with PP-fronting to SpecIP in English appears to be general. In Locative Inversion, for example, PP$_{LOC}$ is in initial position, but it is a topic, not in SpecIP (Bresnan 1994, Rizzi & Shlonsky 2006, Den Dikken 2006 among others). Copular BE can have PP$_{LOC}$ initial too, and here too it is not in SpecIP as shown by the ungrammaticality of ECM and Subj-Aux inversion:

(74)   a.   On the desk are three photos of a White Desert oasis

         b.   *John expects [on the desk to be three photos of a White Desert oasis]

         c.   *Are on the desk three photos of a White Desert oasis?

In the spirit of Den Dikken (2006) we attribute the ungrammaticality induced by PP movement to SpecIP to Economy considerations, rather than Locality, since in PA the problem is removed by domain extension and the copula. Why then is PP-fronting to SpecIP possible in PA, modulo Locality? Following Collins (1997), we assume that considerations of Economy favor overt raising of the subject DP over the combination of PP raising and covert feature checking / Agree with the *in situ* subject. This excludes movement of PP$_{LOC}$ to SpecIP in English. PP$_{LOC}$ inversion in PA is based on the no-Agr paradigm, and so, quite simply, there are no phi-features remaining to be checked against the *in situ* subject (recall from

section 3 the absence of covert feature-checking in PA). Since there is no additional step to worry about considerations of Economy become moot and the choice between raising the closer DP or the more distant PP_{LOC} is only a matter of Locality.

While many details remain to be further fleshed out, we suggest, in closing, how English Locative HAVE (72c) could be derived from (73c). The peculiarity of English Locative HAVE (72c) is that it necessarily involves three syntactic positions, even though only two participants are involved, locatee and locatum. However, taking into consideration the analysis of PP-fronting with BE in Den Dikken (2006), the association with three positions may become less surprising: PP is base-generated in the topic position, SpecIP hosts the null equivalent of a locative pronoun, *pro*, and the subject DP is lower down, in its original position. In both HAVE and BE we find three syntactic positions and binding between the two positions associated with the location:

(75)   a. Locative BE: $[_{PP}$ in the tree$]_1$ $[_{IP}$ pro$_1$ Infl … $[_{RelP}$ nests Rel° $[_{PP}$ ~~pro~~$_1$ $]$

        b. Locative HAVE: $[_{IP}$ the tree$_1$ Infl … $[_{RelP}$ nests … $[_{PP}$ in it$_1]$
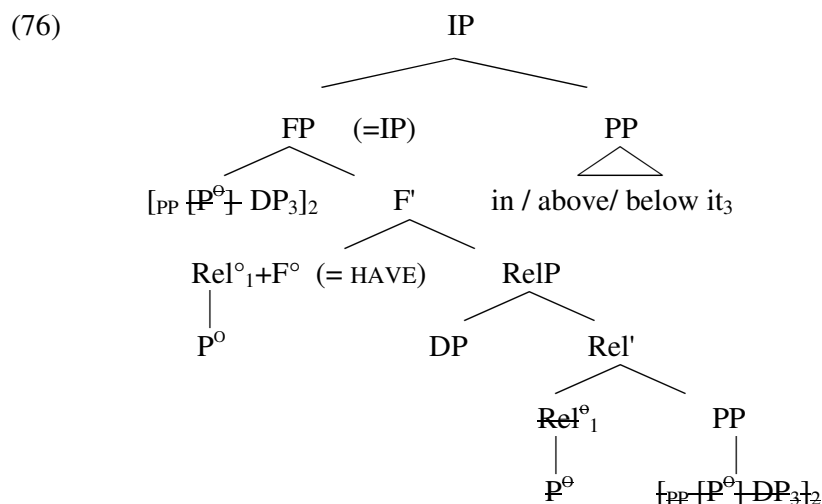
The only configuration, according to Den Dikken (2006), which circumvents the Economy problem associated in English with inversion, is when the fronted category contains an empty category, *pro* in (75a).[40] The coindexed topic serves to identify fronted *pro*. Extrapolating to (75b), we take the full pronoun-containing PP to be an adjunct licenser of this sort, hence the obligatory coindexation. We suggest that the coindexed PP is necessary to identify a preposition which is missing within the subject *the tree*, and that the pronoun is a fill-in E-type pronoun. On this analysis, *the tree* is contained within a PP_{LOC} which raises from within RelP. Movement of PP across the agreeing subject circumvents Economy because PP_{LOC} is missing a preposition which extracts to Rel°.[41] Further domain extending movement of Rel°

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[40] See also Ritter & Rosen (1997), for *pro* in PP.
[41] See Den Dikken & Næss (1993); Den Dikken (2006) on Beheaded Inversion and related examples.

to F° allows the "beheaded PP" to cross the subject on its way to SpecFP. We take FP to be

IP, and the full PP adjoined to be it:

(76)

```
                              IP
                 ┌─────────────┴─────────────┐
              FP    (=IP)                    PP
         ┌──────┴──────┐                    ╱▔▔╲
   [PP [P̶ᶿ̶]̶ DP₃]₂      F'          in / above/ below it₃
              ┌────────┴────────┐
       Rel°₁+F°  (= HAVE)      RelP
              │            ┌─────┴─────┐
              P°          DP          Rel'
                               ┌───────┴───────┐
                             R̶e̶l̶ᶿ₁             PP
                               │               │
                               P̶ᶿ̶        [PP [P̶ᶿ̶]̶ DP₃]₂
```

Since Rel° contains an incorporated preposition, the obligatory copula is realized as HAVE

rather than BE.[42,43] On this analysis, the emergence of HAVE on the Locative construal follows

from the "beheading" strategy in the circumvention of Economy. Where PP may front fully

intact, as in PA, we are left with incorporation of a bare Rel°, resulting in BE. On this

approach, the derivations of HAVE and BE parallel no-Agr and full-Agr configurations in PA.

The general expectation raised is that the presence of HAVE in clausal possession on the

Locative construal should correlate, cross-linguistically, with the agreement-system and the

requirements imposed on the stranded DP.

The integration of the syntax of BE and HAVE locatives has not, to the best of our

knowledge, been previously attempted, and provides a basis for a fuller integration of the

typology of clausal possession across BE and HAVE, according to which HAVE, like BE, is a

raising category with a derived subject. Many questions remain regarding the emergence of

HAVE in the Part-Whole construal and in alienable possession. It is possible that HAVE is

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[42] In the spirit of Benveniste (1966), Freeze (1992), Kayne (1993), Belvin & Den Dikken (1997), where HAVE is treated as BE + P°. See Law (1994), Mahajan (1994), Hoekstra (1994), Ritter & Rosen (1997), Nash (1998) for the view that HAVE is not derived by incorporation of P°.
[43] We depart from the syntax of domain extension in Den Dikken (2006) in allowing both Economy-related head movement and Locality-related head movement within the same derivation.

always produced by incorporation of a preposition, and that *of* in (73b) and AT in (73a) similarly raise to I°, though the need for P°-extraction or domain extension is much less clear in these cases. If HAVE is always produced by P°-incorporation, it is possible that P°-incorporation is in the service of domain extension or not, just as the realization of BE may be in the service of domain extension or not.

8.   Conclusions

The array of ingredients realized overtly in PA strongly supports the decomposition of possession into a variety of syntactic configurations associated with distinct meanings. The division into no-Agr and full-Agr, and the different syntactic possibilities they support, also provides a new key for bridging English clausal possession across HAVE and BE, which, to the best of our knowledge, have not been integrated at this level of syntactic and semantic detail.

The picture which emerges is partly familiar and partly new. The subject in both HAVE and BE possessive clauses is a derived subject, and since, in addition, none of its underlying structures is devoted exclusively to possession, we conclude that possession is not linguistically encoded as such. Drawing on previous work on the DP-internal semantics of possession, we have argued that clausal possession has a DP as its source, but only on the Part-Whole construal. The examination of differences between Part-Whole and Location within the no-Agr paradigm in PA has led, in turn, to the postulation of a third ApplP source, where humans are treated as special. Returning full circle to a comparison of Part-Whole and ApplP structures in PA, we have shown that inalienable possession comes in two varieties, entailed in the first and inferred in the second, supporting the variety of views on inalienable possession in the literature. Here we find syntactic variation in the realization of Appl°, abstract in PA and overt in English, leading again to the formation of HAVE. If we are correct,

and these possibilities do generalize to other contexts, the difference between HAVE and BE may further reduce to parametric variation in agreement systems and possible effects in the surface realization of prepositions.

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